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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/594,248	09/25/2006	Hideki Isono	Q80706	2182
23373 7590 09/02/2009 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037				
EXAMINER				
FALASCO, LOUIS V				
ART UNIT		PAPER NUMBER		
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09/02/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary**Application No.**

10/594,248

Applicant(s)

ISONO, HIDEKI

Examiner

LOUIS FALASCO

Art Unit

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06/22/09.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 2-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 11-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/US)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Papers Received

1. The Amendment and Remarks filed 06/22/09 are acknowledged.

Claims

2. The claims are 1 to 16.

Election/Restriction of Invention

3. Applicant's election of Group II without traverse 12/18/08 is acknowledged.
4. The elected invention is dependant on the non-elected claim 1, and has been included as a linking claim for the elected invention.
5. Claims under consideration are 1 and 11-16.

Action of Merits

6. The following new rejections are made in response to applicant's amendments.

Statutory basis

7. *The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.*

Rejections

8. Claims 1 and 11-16 are rejected under 35 U.S.C. §103(a) as being unpatentable over **Onoda et al** (JA 2002-220259) with either **Miyamoto et al** (JA 2001-167427) or (US 2002/0110706) – either in further view of **Isono et al** (US 2005/0284179 – newly cited).

Onoda et al is directed to a magnetic glass disk and method of manufacturing a magnetic disk with glass substrate having opposing surface compressive stress layers (within the claimed thickness **Onoda et al** ¶[0036]). **Onoda et al** uses the same compressive stress strengthening process sequence as applicant (*cf* instant specification ¶[0079-83] pg 19-20 with **Onoda et al** ¶[0014], [0030]). The claimed stress, impact resistance and waviness is that of the claims since they are without *meets nor bounds* being limited in the claims only as 'predetermined'; the worker of ordinary skill would reasonably have be expected to have some predetermined standard in manufacturing a commercial disk. **Onoda et al** also teaches optimally adjusting strengthening to a degree in correspondence to disk system operating conditions (see **Onoda et al** ¶[0017], [0023], and [0031]) commensurate with a noise and distortion levels (**Onoda et al** ¶[0028]).

Onoda et al does not specify *mirror finishing* or *waviness* for the disk. However mirror finishing and waviness are conventions optimized for in the manufacture of magnetic recording disk substrates as evident from the **Miyamoto et al** (JA) tolerances for finish, smoothness compressive stress depth (**Miyamoto et al** (JA) ¶[0031]) prior art waviness (**Miyamoto et al** (JA) ¶[0045]) and finishing (**Miyamoto et al** (JA) ¶[0046]); and **Miyamoto et al** (US) tolerances for stress level depth (**Miyamoto et al** (US) ¶[0268]) waviness as a disk variations (**Miyamoto et al** (US) ¶[0078], [0098], [0113], [0264], [0271]) and

mirror-finishing polishing as smoothness (**Miyamoto et al** (US) ¶[0099], [0172-174]).

The claims require measuring with a *Babinet* compensator; however it is not seen how the *Babinet* compensator instrument itself would change/effect the measure in the art since the art teaches measuring to the same degree applicants' claim. It would be obvious to one having ordinary skill in the art to adopt the tolerances and measures shown for media disks in **Miyamoto et al** (JA) and **Miyamoto et al** (US). **Onoda et al** teaches disk manufacture for low fly head systems similarly taught in **Miyamoto et al** (JA) at ¶[0005] and **Miyamoto et al** (US) at ¶[0010-15] and [0058].

The claims include wherein the melted glass mixture having three alkali metal nitrates where the smallest ion radius alkali metal nitrate is 0.0001% to 0.3% by volume. This smallest ion radius alkali metal nitrate, this corresponds to Lithium nitrate. **Isono et al** teaches the strengthened glass with a layer of having three alkali metal nitrates where the smallest ion radius alkali metal nitrate (**Isono et al** ¶[0093]-[0099]) is 0.0001% to 0.3% by volume as appears to be encompassed in the examples mixing ratio summarized at TABLE 1 (**Isono et al** ¶[0095]). It would have been obvious to one having ordinary to adopt the **Isono et al** strengthened glass with a layer of having three alkali metal nitrates where the smallest ion radius alkali metal nitrate in glass disk of **Onoda et al** with **Miyamoto et al** for increased shock resistant disks (**Isono et al** ¶[0009]).

- As regards claim 11 **Onoda et al** teaches chemically strengthening by bringing the glass substrate into contact with a three nitrites (**Onoda et**

al ¶[0011-13] to form compressive stress layers at both opposed 'main surfaces' of the glass - this is evident from the glass substrate being immersed in the strengthening treatment ¶[0047] - Examples 1,3-5. The ion exchange is considered low-temperature ion exchange, though applicants offer no standards for the term, given ambient temperatures in **Onoda et al** ¶[0037], [0014]. The formation of a transition between the glass and compression layers, noted above, one would reasonably expect a transitioning tensile stress layer between the compressive stress layers and main surface, see **Miyamoto et al** (JA) at ¶[0015], [0030], and [0041].

- As regards claim 12 polishing see **Onoda et al** ¶[0047] for Examples 1, 3-5 and **Miyamoto et al** (JA) at ¶[0053] and **Miyamoto et al** (US) at ¶[0075], [0181-182].
- As regards claim 13 the mirror-finished surfaces have an arithmetic mean roughness (Ra) of 0.4 nm or less see **Miyamoto et al** (JA) ¶[0046]; **Miyamoto et al** (US) mirror finish Ra standard ¶[0058], [0062], [0099], [0172-174].
As regards claim 14 see **Onoda et al** ¶[0044]; **Miyamoto et al** (JA) at ¶[0053]; **Miyamoto et al** (US) at ¶[0217] et seq.
- As regards claim 15 see TABLE 1 in **Isono et al** ¶[0095].
- As regards claim 16 ppm range see TABLE 1 **Isono et al** ¶[0095], these Table 1 mix range values would be expected to encompass the 10-3000ppm range since Li is as low as 2 weight percent of the nitrate ratio.

Examiner Comments on Isono et al (US 2005/0284179)

9. Applicant's claim for the benefit of prior-filed US Provisional Application 60/556,021 filed March 25, 2004 is acknowledged, however conditions for receiving the benefit of an earlier filed date under 37 CFR 1.78a,5(iv)¹, including a certified English translation, have not been complied.

Answer to Arguments

10. Applicant's arguments with respect to the claims under consideration filed June 22, 2009 have been fully considered but they are considered moot in view of the new grounds of rejection citing **Isono et al** (US 2005/0284179).

11. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

(iv) If the prior-filed provisional application was filed in a language other than English and both an English-language translation of the prior-filed provisional application and a statement that the translation is accurate were not previously filed in the prior-filed provisional application, applicant will be notified and given a period of time within which to file, in the prior-filed provisional application, the translation and the statement. If the notice is mailed in a pending nonprovisional application, a timely reply to such a notice must include the filing in the nonprovisional application of either a confirmation that the translation and statement were filed in the provisional application, or an amendment or Supplemental Application Data Sheet withdrawing the benefit claim, or the nonprovisional application will be abandoned. The translation and statement may be filed in the provisional application, even if the provisional application has become abandoned.

¹

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

- The claims are 1 to 16.
- Claims under consideration are 1 and 11-16.
- No claim has been allowed in this action.

INQUIRES

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Louis Falasco, whose telephone number is (571)272-1507. The examiner can normally be reached on M-F 10:30 - 7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Ruthkosky can be reached at (571)272-1291. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For

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more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/L. F./

Examiner, Art Unit 1794

/Kevin M Bernatz/

Primary Examiner, Art Unit 1794

August 27, 2009